

Claims

[c1] 1. A voice over internet protocol (VoIP) system and related user interface, comprising:

- a first local area network (LAN), comprising:
 - a first local telephone system;
 - a first communication module for connecting the first local telephone system to the Internet through a first dynamic IP address, the first communication module connecting to the first local telephone system through a first trunk line, the first communication module capable of converting voice signals received from the first local telephone system to voice packets for transmission over the Internet and capable of restoring voice packets received through the Internet into voice signals;
 - a first IP-based extension connected to the Internet through a second dynamic IP address, the first IP-based extension can dial to the first local telephone system directly; and
 - a first host connected to the Internet through a first static IP address, the first host controlling voice packet transmission of the first telephone system via the Internet;
- a second LAN, comprising:

a second local telephone system;

a second communication module for connecting to the second local telephone system to the Internet through a third dynamic IP address, the second communication module connecting to the second local telephone system through a second trunk line, the second communication module capable of converting voice signals received from the second local telephone system to voice packets for transmission over the Internet and capable of restoring voice packets received through the Internet into voice signals;

a second IP-based extension connected to the Internet through a fourth dynamic IP address, the second IP-based extension can dial to the second local telephone system directly; and

a second host connected to the Internet through a second static IP address, the second host controlling voice packet transmission of the second local telephone system via the Internet; and

a user interface, used in each of the first and second IP-based extensions, the user interface comprising:

a first functional key for dialing to the trunk lines of the first local telephone system; and

a second functional key for dialing to the trunk lines of the second local telephone system.

- [c2] 2.The VoIP system and related user interface of claim 1 wherein the first local telephone system is selected from the group consisting of a public switched telephone network (PSTN), a private branch exchange (PBX), and a normal telephone.
- [c3] 3.The VoIP system and related user interface of claim 1 wherein the second local telephone system is selected from the group consisting of a PSTN, a PBX, and a normal telephone.
- [c4] 4.The VoIP system and related user interface of claim 1 wherein the first communication module is selected from the group consisting of a data access arrangement (DAA) module and a subscriber line interface circuit (SLIC) module.
- [c5] 5.The VoIP system and related user interface of claim 1 wherein the second communication module is selected from the group consisting of a DAA module and a SLIC module.
- [c6] 6.The VoIP system and related user interface of claim 1 wherein the first and second communication modules are each connected to the Internet through a network cable according to the IEEE 802.3 protocol.
- [c7] 7.The VoIP system and related user interface of claim 1

wherein the first and second communication modules are each wirelessly connected to the Internet through an access point, and the first and second communication modules wirelessly communicate with the respective access points according to an IEEE 802.11x protocol.

- [c8] 8.The VoIP system and related user interface of claim 1 wherein the first and second IP-based extensions are each connected to the Internet through a network cable according to the IEEE 802.3 protocol.
- [c9] 9.The VoIP system and related user interface of claim 1 wherein the first and second IP-based extensions are each wirelessly connected to the Internet through an access point, and the first and second IP-based extensions wirelessly communicate with the respective access points according to an IEEE 802.11x protocol.
- [c10] 10.The VoIP system and related user interface of claim 1 wherein the user interface of the first IP extension of the first LAN further comprises a third functional key for dialing to the second IP extension of the second LAN.
- [c11] 11.The VoIP system and related user interface of claim 1 wherein the user interface of the second IP extension of the second LAN further comprises a third functional key for dialing to the first IP extension of the first LAN.

